

Artists Using Science and Technology

Ylem (Eye-lum): The exploding mass out of which the universe emerged in the Big Bang

Ylem Newsletter

Vol. 15, No. 5 September/October 1995



Thumbprint taken from Gail Wight's "Gray Areas"
(see page 14)

From the editor:

The artists contributing to this issue of the Ylem Newsletter describe work stimulated by and accomodating itself to natural forces. The physical universe, reflected in this work, is a transient and ever-changing pattern in infinite-dimensional space. These artists are beginning to develop a visual and linguistic structure to express a deeply felt recognition of the "complex of energy events interacting to form a stable pattern."¹ And, they share a commitment to making this work accessible in the public forum. Hopefully, their art will surprise you to think about sun, wind, water action and the mind~body in a new way.



Anita Margrill
Guest Editor

¹ R. Buckminster Fuller

Ylem Exhibit

**Transitions 95:
Art -> Science/Technology**

October 2-27, 1995

**Canessa Gallery
708 Montgomery,
San Francisco, CA 94111**

415-296-9029

hours: 10 AM-4 PM, M-F

**Easy to find! Right by
Transamerica Pyramid.**

Events

San Francisco Open Studios:

Oct. 7-8, 11-5 PM

Reception: Oct. 8, 5-8 PM

Visions: Oct. 22, 5-7 PM

Brief talks by the artists about their work.

During the exhibit the new Ylem Slide Registry will be shown continuously. Open Studios only: Video tapes of Ylem artists.

Ylem Party!

Sunday, October 15, 4-8 pm

**Canessa Gallery
708 Montgomery,
San Francisco, CA 94111**

**Right by Transamerica Pyramid
Potluck, Bring your own booze**

Contact:

**Trudy Myrrh Reagan,
415-856-9593**

Our first party in awhile!!! At the Ylem exhibit in the very historic and mellow Canessa building. The gallery is a special project of Ylem member Zach Stewart, a special person whom you'll want to meet.

Roger Ferragallo, designer and educator, shows computer-generated stereoscopic effects in large wall pieces and small computer paintings.

Wolfgang Gersch, who creates paintings, murals and digital images, integrates ancient mythology with contemporary electronic technology and zeitgeist.

Pat Markovich, abstract sculptural paintings in white and pale neutral colors, some assembled around neon.

Mike McGuire, author of *An Eye for Fractals*, generates fractals mathematically and also photographs them in nature.

Myrrh, founder of Ylem: Artists Using Science and Technology, incorporates science images and ideas in her *Essential Mysteries* paintings on plexiglas

Amy Youngs, sculpture from castoffs of a technological society.

Ylem Reviewer Needed

Reviewer needed to explore artists' web sites and list best ones in Ylem Calendar. Perhaps the Ylem Newsletter can feature a separate column of such reviews each issue. Contact:

Trudy Myrrh Reagan, 967 Moreno Ave., Palo Alto, CA 94303; 415-856-9593; trudymyrrh@aol.com

Newest Addition to Ylem's Art on the Edge Website

Barbara Lee's *CHAT* project is a virtual chat environment. The project seeks to inspire women to participate by uploading their own interviews. *CHAT's* internet address is:

<http://www.ylem.org/ylem/artists/bleechat/chatmenu.html>

Ylem Forum:

The SolArt Global Network

Wednesday, Sept. 6, 7:30 pm
McBean Theater,
The Exploratorium,
3601 Lyon St., San Francisco

Contact: Theo Ferguson,
510-548-7490

Join us! We invite you to participate in celebrating the successful completion of *the SolArt Global Network*, a festival of solar art that took place world-wide this summer, and challenge you to continue the effort. The SolArt Global Network could be experienced as "the sun at play" as SolArtists have enabled us to experience the sun as a whimsical, beautiful creator. How does the *SolArt* endeavor challenge the global attitude towards resource use and decision making? We can create with the Sun as we know it now for five more billion years! But we need to take serious action now to steward our Planet Earth.

Theo Ferguson, organizer and host of this forum, will give perspectives with international flair and introduce extraordinary homegrown talent:

SolArtists Alex and Martha Nicoloff will

present videos of art produced in response to the challenge of SolArt Global Network as well as a piece which allows us to participate in the evolution of a sun sculpture.

Anita Margrill will present aspects of her work using the sun and wind to create her sculpture.

Solar Crystal by Juergen and Nora Claus, instigators of the SolArt Global Network. They hail from Baelen, Belgium and the Media Arts Institute of Cologne, Germany and will participate remotely by sharing the creation of the *Solar Crystal*, the collaboration of a local solar institute and a local high school—showcasing community building and a sustaining legacy.

Therese Lahaie will present on *Navigating with Walt, the Solar Subversive*.

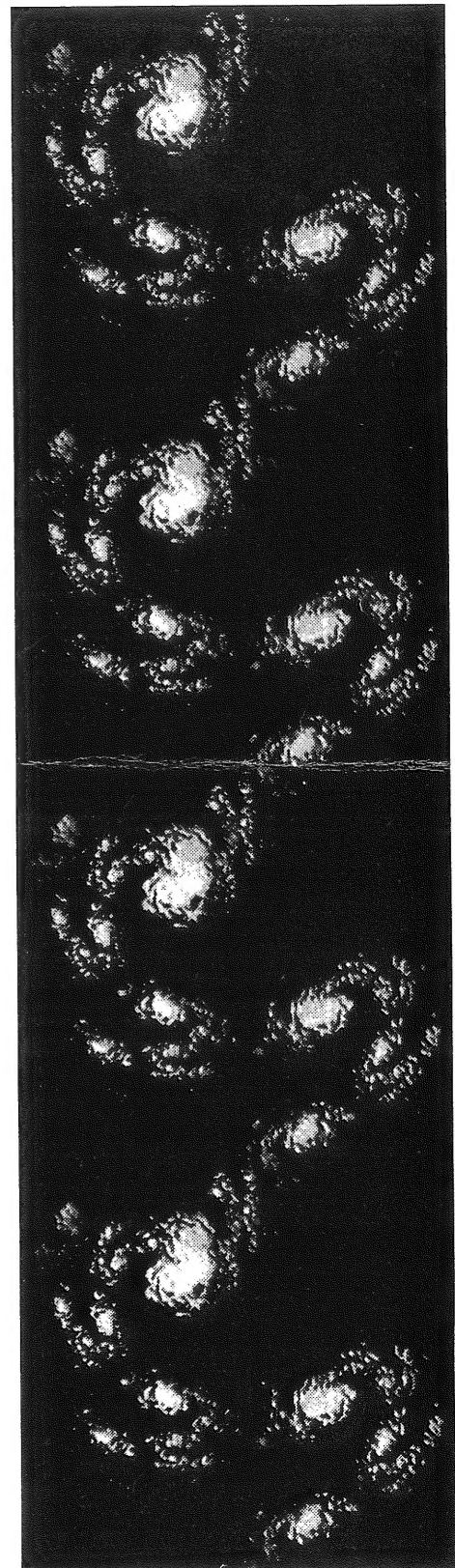
Mark Mrohs, Western Representative with Siemens Solar, will enable us to experience "*the PhotoCell*", in an interactive performance piece.

Other Surprise SolArtists and a full report on the *SolArt Global Network WWW Home Pages* will challenge and delight you.

News of Members

A solo show of Kenneth Snelson's tensegrity sculptures took place at the Contemporary Sculpture Center in Japan in April and May...at the same time that Bruce Beasley's bronzes were being shown at Yorkshire Sculpture Park, UK... Dennis Summers, was part of "Interventions," an installation by 45 Michigan artists who "incorporated" their own works into an art museum's permanent collection galleries in Oak Park, MI... Dave Archer's studio, where he uses high voltage to create the crusty paint textures in his cosmic paintings,

was featured on the television show, "Backroads of California" in July... If you love 3D, look up the article, "Stereoscopic Architechral Surfaces" by Roger Ferragallo in the Mar.-Apr. issue of Stereo World.... Barbara Plowman had a solo show of her scanning electron microscope photos at Vision Gallery North in San Francisco.... Group shows: Roman Verostko at The Williams Gallery, Princeton, NJ... Bettina Brendel, at the Palm Springs Museum, CA, where her computer work earned an honorable mention.



Spiral Arms, video generated fractal by Peter H. King

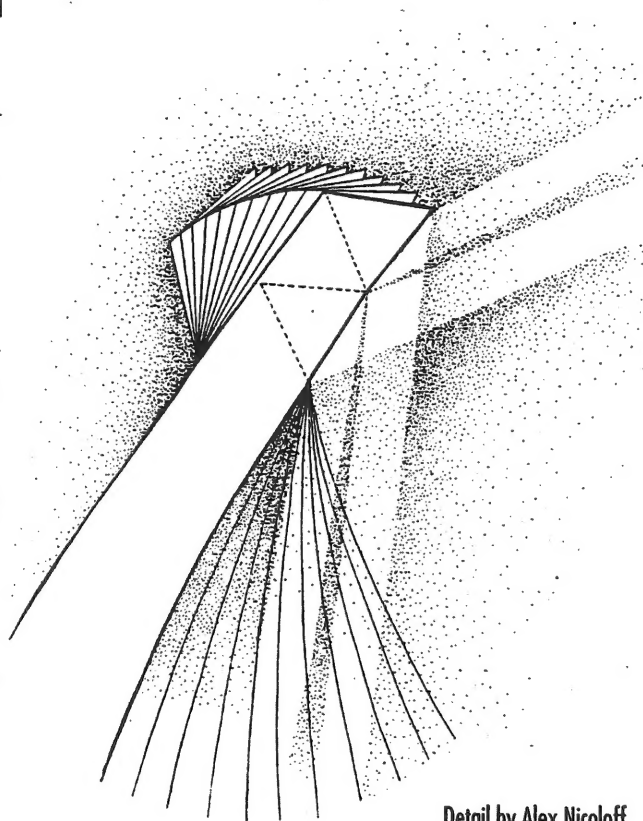
Summer Solstice: Launching the SolArt Global Network, American Perspective

by Theodosia Ferguson June 29, 1995

Paul McCready of Aerovironment, Inc., a SolArtist, states the "real challenge is the growth in numbers, demands, and needs of human bodies—their transportation, feeding, housing and managing. Doubling times are a few decades, and the growth can be plotted on linear graph paper—but the growth is squashing against limits. Civilization can't double people, feed them and put 10 billion cars on new roads without severely stressing earth's resources and without further disdaining the value of nature and the animal world of which we humans used to be a part."

We crew of Spaceship Earth, an exquisitely turned phrase by Buckminster Fuller, need to reclaim our relationship with other species, nature and each other. As a participating SolArtist, I am excited about this endeavor—this Solart Global Network—which embraces new visioning and communicating—both conceptually and experientially. The SolArt Global Network intends to stimulate the cultural imagination towards a Solar Age. In their varied ways what are these SolArtists calling for? By creating with the engine of our solar system, these artists coax us to revisit our basic relationship with the cosmos and inventory overlooked storehouses—both external and internal. External—reconsidering both our mix of energy sources—with an eye to maximizing our use of renewables—and effective use and reuse. Internal—developing the underlying awareness of the self to each part to the whole organism—the Planet Earth. This new relationship makes it possible to initiate a willingness to collaborate, enhance and celebrate Gaia, the soul of the world.

What is Solar art, the medium? Bend visible light through reflection, refraction, and break the spectrum apart; employ other wavelengths of light: infrared and ultraviolet. Use heat and heat differentials to drive turbines and shafts,



Detail by Alex Nicoloff

and mechanical energy from wind, waves, and tides. Make electrical energy created by photovoltaics, wind, falling water and combusting biomass. Use photosynthesis. View holograms in sunlight. Create artworks based on eclipses or the equinoxes or solstices.

Magic and beauty excite the imagination. Bringing magic and what is true into our lives can be as straightforward as using our tools and design sense to create elegant solutions which satisfy

and serve our Gaian needs. Two SolArtworks come to mind which can stimulate direct application in our urban-scapes and transportation: 1) works in progress by Bette Rothaus in which she paints phosphoring minerals on the back side of a white planar medium, which she has worked into three dimensions so that sunlight interacts with the phosphorescence to create subtle hues of solar reflection and shadows. It is a clear step to employ this treatment as south facing building materials in the near future. 2) Paul McCready's Solar Challenger, the ultralight plane with a skin of photovoltaics, was made as a symbol that photovoltaic cells can produce real power and be a part of the world's energy future. In 1981, it flew 163 miles from Paris to England, powered by sunbeams. Did you know that photovoltaic cells, which can power anything which is powered by electricity, is among the resource efficient sources of electrical

power for remote/off the grid areas and is now becoming competitive with conventional, non-renewable energy of energy sources—such as oil and coal?

Another aspect of magic is the glee of recognition. One such "Aha!" is the use materials in new ways. The collaboration of Alex and Martha Nicoloff, Theodosia Ferguson and Scott Eatherton birthed the Solar Porthole—a porthole through which one can vision the Solar Age. Finely polished acrylic tetrahedrons are

strung in series and mounted in a fillet of sewage pipe attached to a photographic ballhead mounted to a telescoping paint roller extension pole ballasted base. There are SolArt pieces which purely lift the human spirit such that the technical aspects—however fascinating—fall away in personal experience. The Nicoloffs' gorgeous solar video compositions co-composed with Tom Nunn and other local musicians are perceptual feasts. These videos are dazzling, superbly edited moments of solar prismatic display accompanied by companion sounds creating an eye-ear-mind meld. Janet Saad-Cook's painterly pieces and installations evolved from chrysalis forms to the birthing of the imagination and the creation of light and life forms and experiences. We are, like Ms. Saad-Cook's earlier pieces, cocooned in personal concerns. Like pre-teens we need to hear that there are no others to "clean up" after us. As a fully mature species, there are no others

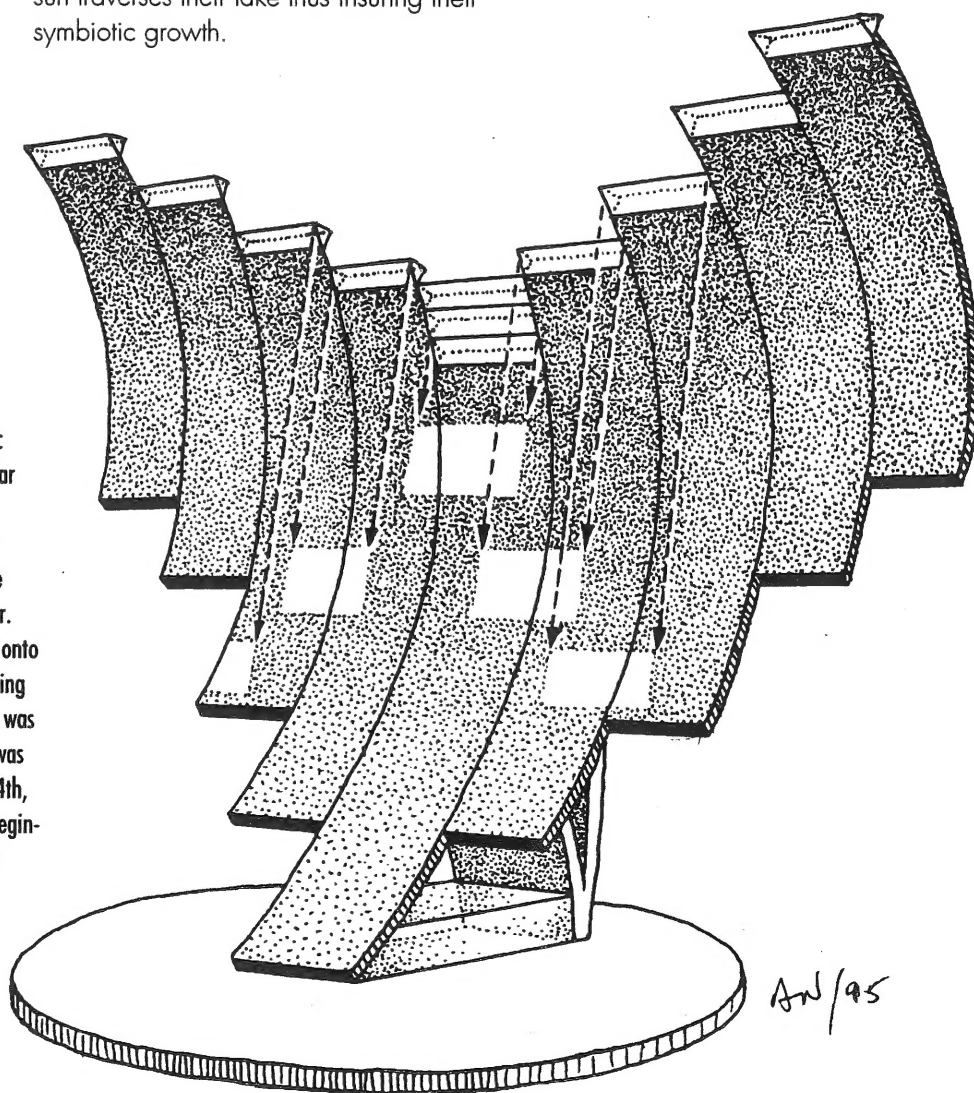
to experience the mind, heart and soul of Gaia more fully than homo sapiens at this time.

There is another participant species—the jellyfish of Jellyfish Lake in the chain of Lost Lakes of the Medusa in the reefs of Palau in Malaysia. These participants are in themselves living solar sculptures/collectors who, at day break, swim strongly from the depths of their cavernous limestone, mangrove-rimmed lake cut off from the sea where they nitrogen fix their algae "crops" farmed on their bodies. They align their translucent membrane caps towards the sun to capture every photon of sunlight as the sun traverses their lake thus insuring their symbiotic growth.

Happily, unlike our jellyfish colleagues, we can experience each other's investigations and creations drawn from widely diverse conditions and traditions—life beyond the lake! So what is life in the Solar Age? Aspects encompassed include—that we live in a desirable, sustainable world; that communication about resource use and lifestyle choices is inherent; diverse communities are aware of themselves and each other. This underlying awareness could be experienced as a profound sense of interconnectedness of each part to the whole organism—the Planet Earth—as well as

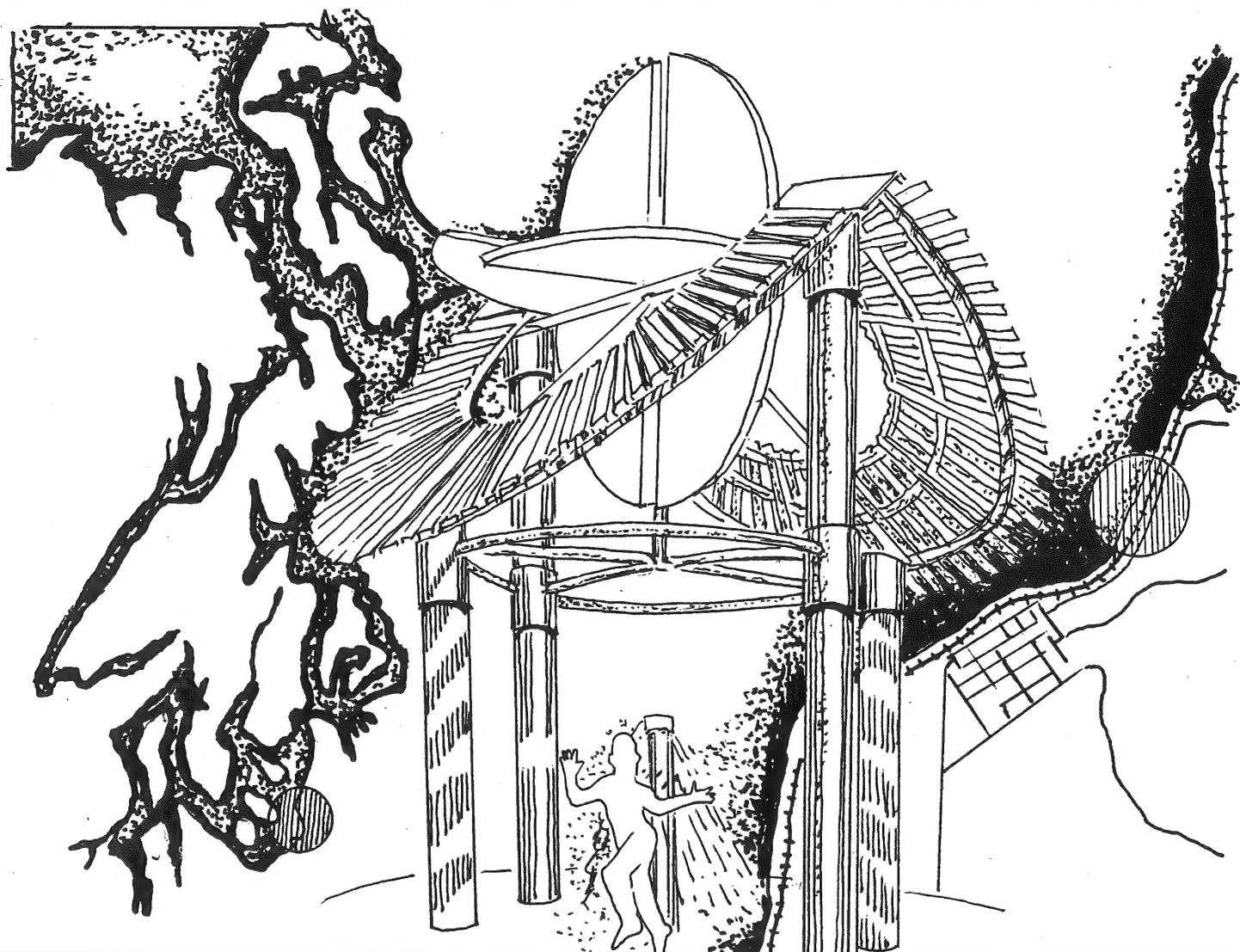
(Continued on page 7)

Sun Spirit is a kinetic sun sculpture in which nine acrylic prisms are mounted on as many curves to project the solar spectrum. Each prism-curve is tilted by a few degrees catching the light in a range of solar altitudes every day all year round. When completed, the assembly will rotate slowly, powered by an autonomous solar energy generator. A four minute cycle of spectral imagery will be projected onto the contoured planes for as long as the sun shines, resetting itself automatically if the light is interrupted. **Sun Spirit** was created in celebration of the SolArt Global Network and was unveiled at the Nicoloff's Summer Solstice event, June 24th, Berkeley, CA among like events and festivals signaling beginnings relating to the SolArt Global Network event around the world. The SGN Activity spans the time period from June 21st—Summer Solstice—through August 31, 1995. In honor of the SolArt Global Network, the Nicoloff's Spectral Wave was installed at the Lawrence Hall of Science, a noted Science Museum above the University of California at Berkeley.



Adventures in the Wind Trade

by Anita Margrill



Wind Pavilion, by Anita Margrill, 1995

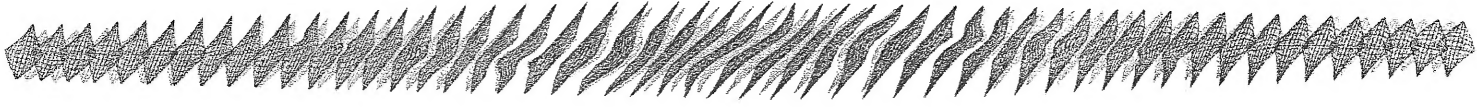
Harnessing the turbulence of wind power for kinetic sculpture, is like sailing close to the wind: exhilarating with an edge of the unknown. Of course, wind has been utilized from the moment the ancients set sail, and early technicians established windmills for pumping water and milling grain. Here in California, we know the wind farms of Altamont Pass and Palm Springs for electric power generation. And, certainly the kinetic sculpture of George Rickey and Shingou follow this wind-driven tradition.

Blessed in the past few years with beautiful sites: on the Niagara River Gorge, on San Francisco Bay, on the Pacific Ocean in Pacifica, even on Pollywog Pond in Manhattan Beach - I have been able to build work which incorporates the dynamics of wind movement, often in relation to water action and photovoltaics. A current project, described here, *Wind Pavilion* for Steilacoom, Washington, is sited on the shore of Puget Sound.

In Steilacoom, there is a narrow strip of

land called Sunnyside Beach Park. Bordered by the deep waters of Puget Sound and the long, horizontal track of the Burlington Northern Railroad, the park seems like a verdant island temporarily moored against the shore. As with islands, there is a feeling of containment here, tempered by winds writing their signature on the horizontal expanse of the waterway, boats passing by, birds racing clouds across the skydome overhead.

Invited to Steilacoom by the Washington



State Arts Commission to make a proposal sponsored by the Department of Correction, I first visited the prison on McNeil Island, accessible by ferry from Steilacoom. This unusual sightseeing tour occurred because the DOC, as a way of ameliorating the impact of prisons on local communities, gives a grant to these communities for public art projects. At the prison, the natural forces of wind, water, and sky all seemed to present boundaries, limits to transgression - in great contrast to the park site on the opposite shore. When I discovered that this park was scheduled for a major renovation, which included an outdoor shower for snorklers and skin divers, I immediately decided to design a shelter, which would provide a more private experience (especially since many trains pass by.) I also realized that this structure should incorporate the use of wind, as an intimate connection to the natural forces impacting the site, and as the symbolic promise of release from McNeil Island. The structure is sited so that it can be seen from the ferry, which sails between the island and Steilacoom.

As *Wind Pavilion* evolved, it became a roofed structure held aloft by four corner poles, aligned to the coordinates NESW. In the summer, the wind blows from the north, northwest; in the winter the wind shifts to the south, southwesterly direction. The circular shaped wood and metal roof is bent in half along its diameter to create its pitch. Inscribed within this circle is another, inner circle - the 'wind device' - two sets of rotors (each with four blades,) which open and close the roof as the wind moves across the site. Following the architect Charles Moore's dictum, that "a building is a stage for movement," as people walk through the shelter and activate the shower spray, they will see the dancing shadows of the kinetic roof above, cast

as ever-changing patterns on the concrete paving and grass below.

In a wind project like this, one tries to build scale models to answer some of the unknowns, prior to building the full-scale work. For example, questions such as - what is the best angle of attack of individual blades, so that they will be reactive to winds coming from north, northwest, southwest and south - can be studied in the model. This angle will also determine the safe maximum spin rate. Should there be a governing system (i.e. a feedback system) which will regulate rpm? If so, what kind? Of course, we will need a system that will require little maintenance. In shifting winds, one set of rotors will be in the lee of the other, causing differential in rotation speed. This may cause eccentricity/vibration, perhaps no problem at low rpm. But, is there an inexpensive, limited slip system, which will allow the rotors to synchronize their rotation at higher rpm's? Also, accurate balancing will lessen the possibility of vibration. Structurally, what is the best detail to dampen vibration? How can this detail be coordinated with the need for the rigidity of moment connections?

Because of the sandy fill and tides at this edge of Puget Sound, my structural engineer called for a floating, concrete mat foundation system - actually a very thick, reinforced concrete slab, heavy enough to withstand the forces of overturning. The foundation will have been poured by the time this article is published. And, fortunately, I have been given time to answer some of the questions impacted by the wind. In my darker moments, I fantasize the whole *Wind Pavilion* sailing away on Puget Sound - but, perhaps this would present a whole new set of interesting conditions.

TLN

(Continued on page 5)

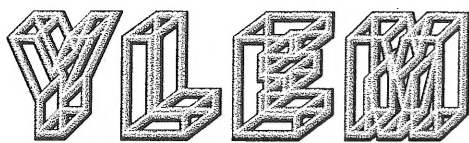
a willingness to collaborate, enhance and celebrate Gaian, the soul of the world. Our egalitarian/organic information access enables us to be aware of the value of unique biomes/cultures in all their amazing aliveness and complexity without getting stuck in Jellyfish Lake or any other paradigm from which there is no egress.

We can talk about the SolArt Global Network further in luscious images, music and video as well as text in that Leonardo/ISAST launched their World Wide Web site based out of MIT Press in January of 1995 and the Solart Global Network WWW HomePage has been a presence since the outset. The World Wide Web is an information access and dissemination tool which can be employed as an intentional community builder—one of the prerequisites towards diverse communities being aware of themselves.

You are invited to participate in the SolArt Global Network as a SolArtist, associated Institution and related effort! Contact Theodosia Ferguson, c/o SolArt Global Network, 1442 A Walnut, #108, Berkeley, CA 94709 USA; or by email:

tferguson@igc.apc.org, As I hear from and of new horizons, I will share them with you. The slimmest of email came to me recently ...word of a pied piper in New Zealand...a composer whose musical instrument is powered by solar energy. I wonder if it's like the Aeolian Harp mounted on the east side of the Exploratorium in San Francisco? Be tuned! Log onto the SolArt Global Network <http://www-mit.mitpress/Leonardo/solart/solartHome.html> and connect with other creative minds lapping on the shores of the new millennium!

TLN



EVENTS

September 1 – October 20

Digital Multimedia Business Seminars Online

Three on-line seminars covering various aspects of the digital multimedia business are being presented by the Digital Village. The individual seminars will offer physical class materials, including a videotape and audiotape or a book which will be discussed by the instructors and panelists (and students) over the Internet (by Listserv). For more info, contact:

Steve Gilman,
415-387-0449; priviet@sirius.com

September 6, 7:30 pm

Ylem Forum: SolArt Global Network

The Ylem Forum at the Exploratorium in San Francisco, will again feature the SolArt Global Network. SolArtists will present their art and a full report will be made on the WWW participation at that time. Nora and Juergen Claus, instigators of the SolArt Global Network of Baelen, Belgium and the Media Arts Institute of Cologne, Germany are expected to attend this event.

Details on page 3.

September 17–22

International Symposium on Electronic Art Web site (Montréal)

The ISEA symposium conference is geared toward art practice and theory, not gizmos. It will be held in Montréal in mid-September. To learn more about it, access its site on the Web at:

<http://www.xs4all.nl/isea>.

October 15 4-8 pm

Ylem Potluck Party!

Details on page 3.

October 25–28

Cultural Diversity Conference (New York City)

Conference addresses current issues of institutions and individual artists committed to community issues, struggle and survival, in addition will solidify the establishment of The Global Network for Cultural Equity. The conference panel discussions and papers will be posted to a Web page on the Arts Wire site. Register by Oct. 15 for \$200.00, afterwards,

All events and exhibits are in the San Francisco Bay Area except where noted. Is your event or exhibit listed here? Send to Ylem Editor, 967 Moreno, Palo Alto, CA 94303.

\$250.00. One Day reg. \$65.00. Info:

The Global Network for Cultural Rights,
c/oMarta Vega, Caribbean Cultural Center,
408 West 58th Street, New York, NY 10019;
212.307.7420; fax 212.315.1086;
caribctr@tmn.com

Women On Line

In conjunction with the United Nations Fourth World Conference on Women in Beijing, China, Aug. 30–Sept. 15, 1995, 500 women artists from every corner of the world are on the Internet. The show is currently on the Web and will continue to be there for a few months. An 8-ft. video wall created by Muriel Magenta (Arizona State University) including the Internet images, 3D computer images and an original sound track in 20 languages will be installed at the National Museum of Women in the Arts, Washington, D.C., and at the UN conference. The World's Women On Line's Internet address is:

<http://www.asu.edu/wwwol>

EXHIBITS

September 1 – October 15

A New Space for the SF Art Commission Gallery

The San Francisco Art Commission Gallery was forced to close its indoor space on Grove Street last fall due to seismic hazard, but is reopening in the space formerly used by the San Francisco Museum of Modern Art Bookstore. First show: "Techné," an exhibition featuring Elliot Anderson, Jim Campbell, Bruce Cannon, Ed Osborn, Ylem member Marjorie Franklin, Hillary Kapan and Sara Roberts.

Art Commission Gallery, 401 Van Ness at McAllister (first floor), San Francisco, CA

Through September 2

Digital Site: art/computer interface (Los Angeles)

Includes Ylem members Victor Acevedo, Mason Lyte, Michael Wright, Anna Campbell Bliss, and Flash Light. Hosted by Mark Frisk and Cynthia Pannucci/ASCI, presented by ASCI, SITE and @CAFE, in LA via the Web.

SITE Gallery,
719 7th St., Los Angeles, CA 90017;
213-629-4532; @CAFE: <http://www.fly.net>
DIGITAL SITE: <http://sensemedia.net/digitalsite>
ASCI: <http://ntad.com/asci>; SIGGRAPH:
<http://siggraph.org/conferences/siggraph95>

September 2–4

The Tech Is Free on Labor Day Weekend!

The Tech Museum of Innovation is open Sept. 2–4, 10–5 pm, during San Jose's annual arts festival, and admission is free. Each day, the

Digital Playroom is open in the Media Lab, and The Tech will host an interactive outdoor exhibit as part of the festival. The Tech is a hands-on museum featuring the emerging technologies of Silicon Valley and beyond. (Normally, admission is \$6, adults, \$4 youth/seniors/students. Fascinating special workshops every weekend. Call for details). More information below.

The Tech Museum of Innovation,
145 W. San Carlos St., San Jose, CA 95113,
408-279-7150; fax -7167

Through September 3

Remembering Nagasaki

A WWW page and Internet exhibit at the Exploratorium. The Web page is offered in conjunction with the simultaneous exhibition of "Nagasaki Journey: The Photographs of Yosuke Yamahata" at the Ansel Adams Center for Photography in San Francisco, the International Center of Photography in New York, and Chitose Pia Hall in Nagasaki. Yamahata's images constitute the most extensive photographic record of the immediate effects of the bombing known to exist.

The Exploratorium, 3601 Lyon St.,
San Francisco, CA 94123; 415-563-7337;
fax 561-0307; pubinfo@exploratorium.edu

September 7 – October 15

disMbody

By transdisciplinary Ylem artists Kenny Rinaldo and Amy Youngs. A multisensory, interactive sculptural installation exploring the disembodied nature of information and messages as they dislocate and fracture one's sense of self, while simultaneously expanding one's sense of connection. "Our sense of self is no longer created through direct experiences but instead through mediated and simulated experiences. ... It is difficult to know where the individual body begins and our extended senses end... Indeed, electronic communications may help us realize that the individual self is a knot embedded in a relational network of others." Opening September 7, 7:30 pm.

Acme Gallery,
667 Howard Street, San Francisco, CA 94105

Through September 20

Digital Site: art/computer interface (Los Angeles)

A digital art exhibition. Digital Site will feature a survey of a number of nationally acclaimed Southern California digital fine artists working in various computer-mediated forms from digital prints to animations and interactive works. Includes Ylem members Mason Lyte and Michael Wright.

SITE Gallery,
719 W. 7th St., Downtown Los Angeles, CA

Through September 23

Meaning in the Workplace

A digital art exhibit. Ylem member Margaret Phanes will offer her vision of meaning in the workplace through a digital art exhibition at VERITAS Software. What place do symbol, meaning, soul or spirit have in the workplace? In an era when computers are blamed for depersonalizing communication, displacing workers and predominating in the workspace, could they also be used to incorporate meaning? VERITAS Software, 1600 Plymouth St., Mountain View, CA 94043; Margaret Phanes, 408-457-1703

Through September 30

Latent August

The legacy of Hiroshima and Nagasaki is shown by history, personal memories, and art. Includes Ylem artist Lee Roy Champagne of the National Neon Institute. Produced by the National Japanese Historical Society. Pier One, Fort Mason Center, San Francisco, CA.

October 1 – November 15

Museum of Living Arts (White Plains, NY)

Computer-generated art.
Eastview Technology Center,
350 Main St., 3 blocks east of N. Broadway,
White Plains, NY; 914-428-2422

October 2–28

Transitions: Art fi Science/Technology

Six Ylem members show works (details on p. 3). Open Studios, Sept. 7-8, 11-5 pm. Reception Oct. 8, 5-8 pm. The artists discuss their work.

October 7

National Open House Day (Los Angeles)

More than one hundred museums, libraries, theatres, and music organizations from twenty-five cities will open their doors free to the public on Saturday, October 7, 1995, as part of Los Angeles County Open House '95, coordinated by the Los Angeles County Music and Performing Arts Commission.

October 15, 4-8 pm

Ylem Potluck Party

Details on page 3.

October 15

Images du Futur (Montréal)

This year, Images du Futur is celebrating its 10th anniversary with a new location, new programming and the advent of the Café électronique™. 18 international artists present work that explores new forms of interaction with the public, based on current developments in virtual reality. Images theme: interactive art and the information superhighway; also, a showing

of the year's best computer animation.

La Cité des Arts et des Nouvelles Technologies de Montréal, 15, rue de la Commune ouest, bur.101, Montréal, Québec, Canada H2Y 2C6; 514-849-1612; fax 982-0064

Through December 31

Virtual World: Multimedia and the Internet

"Live Link to Monterey Bay": The Tech Museum and Monterey Bay Aquarium will take visitors in San Jose into the depths of the Monterey Canyon by using Asynchronous Transfer Mode (ATM) technology. Live undersea video images from deep in the Monterey submarine canyon, along with audio and video interpretation from the Monterey Bay Aquarium, represent communications breakthroughs that are not readily available to the general public. All Labor Day weekend; afterwards, Tuesday, Thursday and Friday from 12:15 to 3 pm.

Interactive Multimedia Exhibit: At another exhibit, a workstation allows visitors to interact with the work of Stewart McSherry, who creates dynamic and elastic 3D computer animations. Part of his exhibit includes a special 3D station with stereographic goggles that allow visitors to experience his art with virtual reality sensations and theater-quality sound. The Tech will also have a CUSeeMe exhibit with digital video compression and network transmission.

The Tech Museum of Innovation,
145 W. San Carlos St., San Jose, CA

Exhibit Review: Holograms at MIT Museum (Cambridge, MA)

Exhibits: Holography; From Louis Sullivan to SOM—Boston Grads go to Chicago; Math in 3D; Sailing Ships to Satellites—the Transatlantic connection; Bill Parker's plasma sculptures. The main attraction at the MIT Museum is the display of holograms from the collection of the NY Museum of Holography. The MIT Museum acquired the bulk of the collection after the NY Museum closed. MIT Museum, 265 Massachusetts Ave., Cambridge, MA 02139; <http://web.mit.edu/afs/athena/org/m/museum/www/museum.html>

Le Café électronique™ (Montréal)

Next to Images du Futur, _Le Café électronique™ is in a 2000 sq. ft. area and has 27 Macintosh computers, 4 resource people, a cafeteria-style restaurant and a shop where a

Some calendar items reprinted from Multimedia Reporter (from North Bay Assn.), Video Networks (from BAVC), Northwest Cyberarts, ISEA Newsletter, Leonardo Electronic Almanac, e-mail, Hotwire, a project of Arts Wire, artswire@tmn.com, and Fusion, newsletter of Art and Technology Society, art-tech-info@nocturne.sbay.org. We cannot verify all information sent to us. Readers, inform us of incorrect or false information, please.

large selection of CD-ROMs, books and other items are sold. The Café is open seven days and evenings a week. You can try out any CD-ROM that interests you before buying it and get on line to the Internet with ISDN line. In September, the Café will become an experimental site for networked multimedia communications by artists. Contact:

Mario Tremblay, 514-849-1612; fax 982-0064

Ylem's Art on the Edge

Currently, the gallery presents 65 artists online.

<http://www.ylem.org>

OPPORTUNITIES

Deadline September 8, 5 pm

1st SECA Art Award in Electronic Media

Sponsored by the Society for the Encouragement of Contemporary Art. Eligible: Independent artists living in Northern California. Media: electronic media, digital image manipulation, interactive media and video, projected image and multi-image installation (non-commercial only). Winning titles will be presented under the auspices of SFMOMA in Spring/Summer 1996. Cash prizes. Submit CD-ROM, videotape, audiotape, Syquest disks or floppy disks. Entries must be received by 9/8. Entry fee \$10. Submit to:

SECA, c/o Suzanne Tan,
San Francisco Museum of Modern Art,
151 Third St., San Francisco, CA 94103-3159.
Info: Loretta Lowrey, 415/282-0431.

Deadline September 15

One Minute World Festival

"Eyes on the City" deadline extended! A video, film or animation up to 60 sec. long. Rules and info:

Agência Observatório, Rua Professor Rubião Meira, 50, CEP 05409-020; São Paulo, Brazil; tel/fax 55 11 851 28 46

Deadline September 25, 5 pm

Celebrate Radio's 100th Birthday

In honor of Marconi. Submit "poetic thoughts through a phrase and/or a drawing." Attach personal data and 20 lines telling the organizers about yourself, your artistic work or your poetic dreams. For exhibit held at the "Guglielmo Marconi" School in New York City, October 2 through November 30. Fax the material to the attention of:

Michele Caldarelli in Italy at fax 011-39/2-865909 or email (text only) to the attention of Stanley Tomshhinsky at: STOM@GALACTICA.IT. For images/drawings, use only fax.

Deadline September 30

Art Communication International (ACI)

The most comprehensive compact disk collection of contemporary art ever assembled. When completed, ACI's Art Collection CD(TM) will be distributed worldwide to galleries and other interested groups to introduce and market fine works of art through personal computers. Juried. \$10 per slide, plus \$15 registration. (Note: As with books produced on a similar basis, much hinges on the quality of the other artists' work, and who sees this CD). Entry fee and promotional price per copy (\$25, includes shipping and handling) for the Art Collection CD (TM).

Art Communication International, 210 W. Rittenhouse Sq., #400, Philadelphia, PA 19103; 215-790-2554; fax -2561

Deadline September 30

Tokyo Video Festival

Top prizes include \$4,000 plus a trip to Japan for two. Entries up to 20 minutes long, 1/2 or 3/4" formats.

Call for application: 201-794-3900

Deadline September 31

Artists On-line

Hassle-free representation of your art on an international scale. No commission fees. You retain 100% of all sales. Artists On-line delivers an innovative, quality, professional multimedia exhibition of your art to top galleries, collectors, interior designers, decorators, architects and corporations—all at the same time. All media, styles and art forms welcome. (Note: There are some scams on artists by web servers. Check out your server first! But this is the wave of the future).

Call: 800-605-6333

Deadline October 15

Call for Papers

For Presence: Teleoperators and Virtual Environments special issue on "augmented reality." Augmented reality systems aim to combine (rather than replace) the real world with a virtual world. Examples: see-through displays that superimpose synthesized graphics over live video, or computer-generated tactile and force feedback integrated with a real-world scene. Augmented reality is being used to explore real-world environments that exist remotely (telepresence), and to enhance local real-world environments. Info:

Woodrow Barfield, Sensory Engineering Laboratory, Mechanical Engineering Building G12, Mail Stop 35265, University of Washington, Seattle, WA 98195 206-543-3350, fax 206-685-3072, barfield@u.washington.edu

Deadline October 15

Mensa Exhibit

Ylem members who are also Mensa members are invited to exhibit at a Mensa convention in San Francisco in November. Contact:

Pat Markovich, 132 Olive, Piedmont, CA 94611; 510-655-5076

Deadline November 1

Independent Film & Video Showcase

Cable access show seeks student & independent films & videos to give artists exposure. Details from:

Box 1626, 4202 East Fowler Ave., Tampa, FL 33620

Deadline November 1

The 5th Annual Loebner Prize Competition

Can you write a computer program that can simulate human conversation? \$100,000 prize! Contest rules and application from: repstein@nunic.nu.edu

Deadline November 1

The Electronic Museum of Mail Art (EMMA)

A Dartmouth College site. A current exhibition invitation is listed there in the Artistamp Gallery. Theme: "Cyberstamps." Main entrance WWW URL address: <http://mmm.dartmouth.edu/pages/user/cjkid/EMMA>

Deadline November 5-9

Ylem Booth at ACM MultiMedia 95

Conference Nov. 5-9, at the Hyatt Regency Hotel, San Francisco. "The premier world-class conference and exposition for ACM MultiMedia's multidisciplinary matrix of technology, application, theory, practice, art and philosophy." Ylem volunteers needed! Booth space available to helper who can forward ACM MultiMedia info by email to big list. An Internet interlink about the conference is being designed to increase attendance. Meet fascinating people, make business contacts. Contact:

Dave Krzysik, International Media, Inc., PO Box 881911, San Francisco, CA 94188; tel/fax 415-550-2306

Deadline Unclear

NAP Video Festival

Open to all videomakers working in documentary, narrative, experimental; VHS, max. 30 min. Festival will premiere in 1996 in Philadelphia and will travel to New York City and Eastern Pennsylvania cities.

New Arts Program, PO Box 82, Kutztown, PA 19530; 610-683-6440

Soon

National Endowment for the Arts

Seeks photos that show in human terms how grantees use their federal funding. Quality b/w or color photos showing creation of new works, audience interaction, etc. No Fees. Send photos labeled with organization/artist name, description, credit, and contact info.

Keith Donohue, Office of Public Affairs, National Endowment for the Arts, 1100 Pennsylvania Ave., NW, # 614, Washington, DC 20506

Soon

Networked Realities '95 (Boston, MA)

Second IEEE Workshop on Networked Realities, Oct. 26-28. Theme: "Emerging Culture in Networking." Papers sought that address the technology, applications, and social, cultural, and psychological issues in joining computer-generated and computer-augmented environments with telecommunications and media technologies. Info:

General Co-Chair Mrs. Judy Keller, j.keller@ieee.org.

Soon

The Creative Work Fund

Supports the creation of new works by San Francisco or Alameda County artists through grants to arts and other community organizations for collaborative projects. Grants \$10,000-35,000. This fall, literary and media artists are encouraged to team up with arts or community organizations to develop collaborative projects. Although letters of inquiry and full proposals will only be accepted from 501(c)3 organizations, (e.g., Ylem) all documents should be prepared jointly by the artists and the sponsoring organizations. Info:

The Creative Work Fund, The Walter and Elise Haas Fund, One Lombard St., #305, San Francisco, CA 94111; 415-398-4474.

NEEDS & OFFERINGS

Art Calendar

The monthly business magazine for visual artists. Listings (5,000 per year!), articles and more. Art Calendar also sells art business books. 1-year subscription, \$32 a year. PO Box 199, Upper Fairmount, MD, 21867-0199; 410-651-9150; fax -5313

Arts-Alert—USA

Will include only the most current and important information in areas where action by the arts community can make a difference, including news on legislative and policy initiatives. ARTS-ALERT—USA will distribute advocacy alerts, providing important and timely information as required in a way that does not overwhelm.



listproc@lists.colorado.edu; leave the subject line blank, and in the message body, simply type: subscribe arts-alert-usa your full name; send a personal request for info from your state to our list administrator:
finkelst@spot.colorado.edu

Barbies for a Better World

A 12-foot-high Statue of Liberty made out of Barbie dolls is a project by Nicolino. If you have Barbies to donate or would like info about the Bras Across the Grand Canyon project, call: 510-237-3939

Computer Privacy Handbook

"Andre Bacard's Computer Privacy Handbook is an invaluable guide to the whole subject of privacy on the net, to the politics of privacy, and, most important, to the practical steps one can take right now." —Mitchell Kapor, Creator of Lotus 1-2-3, co-founder of the Electronic Frontier Foundation. Find out: • who is selling your secrets • how computers help snoops • the dangers of a cash-free society • how Big Brother wants to monitor ALL telecommunications • why e-mail can be terribly unsafe • what to do with your social security number • the advantages of anonymous remailers • how to protect yourself with encryption • the best Usenet newsgroups for you to visit • where to find expert privacy activists. Computer Privacy Handbook also contains a user-friendly manual for Pretty Good Privacy (PGP) software. Author Andre Bacard has a wide-angle view of society. Price: \$24.95.

Peachpit Press, 2414 6th St., Berkeley, CA 94710; 800-283-9444; 510-548-4393; fax 510-548-5991

Creativity Cafe and Visionary Artists' Resources

Founded by Peter H. Rosen for facilitating the expression of artists using technology for humanity.

Creativity Cafe; 2263 Sacramento St., #2, San Francisco, CA 94115; 415.776.0821; 415.985.7040 voice mail;
Web site: <http://www.creativity.net/ccafe>

cybercafe@skip (London)

A technology access center. In an attempt to combat corporate-organized irrationality, cybercafe has opened a disorganized ration-center, located in central London just off the information superhighway. Post items to: British Telecom Skip, Bankside, London SE1, UK; heath@cybercafe.org;
<http://www.cybercafe.org/cybercafe/>
flat 4, 116 Shaftesbury Ave., London W1V 7DJ, UK

Diversive Paths:

A Collaborative Internet Art Project

An ongoing project at Syracuse University. Images are available for downloading; once you have downloaded the image, you are to alter it and make it your own (while still leaving enough of the original to be recognizable), then return it to the site; the next person will download your image to alter. Evolution of art in action! Take a look, and perhaps make your mark.

http://ziris.syr.edu/path/public_html/pathinfo.html

Elite New Trade Publication

A quality new journal: **ArtistWriter**. According to Salli McQuaid, editor-in-chief, the publication's succinct format commits itself to identifying new trends in the arts in the San Francisco area. Refreshingly independent. Subscriptions: \$12 a year. For a free sample copy write:

ArtistWriter, 4265 Diavila Ave., Pleasanton, CA 94588-8375; 510-846-4082;

Institute for Studies in the Arts (Tempe, AZ)

"The Institute for Studies in the Arts invites artists to bridge traditional methods of inquiry with new [technological] forms of creating and to re-envision the role of the artist as a participant in a process for summoning the future of art." —Richard Loveless, Director

Institute for Studies in the Arts,
Box 872102, Tempe, AZ 85287-2102;
602-965-9438; fax -0961

Math Art Web Site by Stewart Dickson

Fractal MUD: The piece is the multi-user exploration of a three-dimensional Julia set—a four-dimensional, infinite Mandala of cosmic mystery. http://mathart.com/Fractal/MUD/FractalMUD_home.html
Mathematical topology in Virtual Reality: http://mathart.com/portfolio/topo_slide/topo_slide_top.html
Direct physical sculpture of parametric surfaces using Mathematica(R): http://mathart.com/portfolio/SPD_Math_portfolio.html
Zometool - the 31-zone hyperspace structural visualization system.
http://mathart.com/ZomeTool/ZomeTool_home.html
<http://mathart.com>

New on Leonardo WWW

Leonardo Announces 1994 New Horizons Award for Innovation: Kitsou Dubois, Choreographer. Learn why at: isast@garnet.berkeley.edu;
<http://www.mitpress.mit.edu/Leonard/home.html>

North Bay Multimedia Assn.

New membership: \$75. Get a year's subscription to the Multimedia Reporter, discounts at meetings and events, networking opportunities, and an organization that can benefit you.

North Bay Multimedia Assn.,
PO Box 150296, San Rafael, CA 94915

Northwest CyberArtists

How to join the on-line CyberArtists List: Send email to

listproc@u.washington.edu
leave the subject line blank and include only the following in the message body: subscribe cyberartists yourname

Obscure

Obscure offers computer studios for computer-based art, manages multidisciplinary and visual arts exhibition spaces and presents and publishes audio and video works.

Obscure, 650, côte d'Abraham, Québec (Québec), Canada G1R 1A1; 418-529-3775; fax -5611

SIGGRAPH Video Review

"Every year, you see the world's most exciting Computer Graphics at SIGGRAPH. This year, when you get home, instead of explaining it to your friends and colleagues, show them."

PO Box 11417, Chicago, IL 60611;
800-523-5503; fax 312-789-7185;
svrorders@siggraph.org

The Electronic Quill

An online art magazine by Ylem member Corinne Whitaker. August issue featured "Why I am not a Computer Artist" by Myrrh. Go first to the "Giraffe" homepage,

<http://www.giraffe.com/>
then click on the Quill contents page.

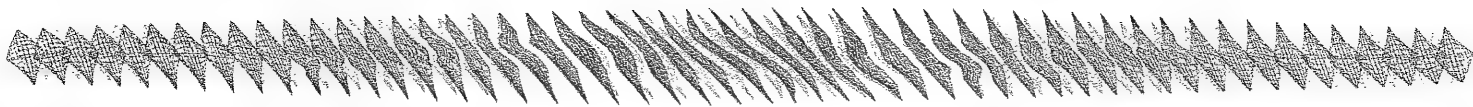
The Pattern Book: Fractals, Art, and Nature

By Ylem Editorial Board member Clifford A. Pickover of IBM Watson Research Center. "This book will allow you to travel through time and space. To facilitate your journey, I've scoured the four corners of the earth in a quest for unusual people and their fascinating patterns. From Mozambique to Asia, to many European countries, the contributors to *The Pattern Book* include world-famous cancer researchers, little-known artists, and eclectic computer programmers. Some of the patterns are ultramodern, while others are centuries old. Many of the patterns are drawn from the universe of mathematics."

World Scientific (River Edge, NJ; 201-487-9655; 800-227-7562; fax 487-9656)
ISBN 981-02-1426-X

The Underground Review

"We have just published an E-Zine, *The Underground Review* (Neobook), an electronic smorgasbord of magazines/books/etc., from the "underground." Each month TUR will feature an obscure magazine or book that our editorial staff thinks your readers will find of interest."
<http://ionet.net/-ordway>



A Conversation with Janet Saad-Cook about her **VERY LARGE ARRAY SUN DRAWING PROJECT**



Sun Drawing by Janet Saad-Cook

A SUN DRAWING is a changing image of light, which Janet Saad-Cook has devised, so that we can experience the play of pure light in a carefully defined space. "I envision the Sun Drawing Project as a quiet enclosure, a sacred place that will reflect the interaction of sun and earth through four dimensions: light, space, movement and time. From the earliest times, civilizations have used the sun's cycle to make their calendar, so that they could live in harmony with the cosmological order. I am planning to make this work of art that uses the sun's cycle in order to reflect that order, and my purpose is to bring us back to the awareness of it."

The National Science Foundation has approved construction of Saad-Cook's project on land located at the National Radio Astronomy Observatory's Very Large Array (VLA) near Socorro, New Mexico. At the VLA, 27 antennae, each measuring 82 feet in diameter, receive radio waves from deep space. "While I use interference phenomena to produce the colors in the Sun Drawings, the astronomers at the VLA use it to create color images of the radio sky."

"Astronomical observatories, because of their function - to measure celestial phenomena - are beautiful in an unintentional way, and they give one an overwhelming sense of being in a sacred place. In this way even modern astronomical observatories seem to have an almost sacred grandeur, for their function is to connect the earth to the heavens."

The NSF has set aside a three acre site adjacent to the Visitors' Center for the Sun Drawing Project. Here, in order to create the sun drawings, Saad-Cook will construct a large sculptural structure - which she conceives as part astronomical instrument and part building, containing a single interior chamber of about 3,000 sf. This chamber will have rounded, smooth white walls, in order to provide an unobstructed surface for the light paintings, continually changing in harmony with the sun cycle.

The exterior shell of the structure will be designed to direct sunlight into the interior chamber in specific ways. A series of clear, glazed apertures will be positioned to direct sunlight at different angles, according to the sun cycle. In the path of the sun, Saad-Cook will position 175 to 200, small, stationary reflective units (very small arrays, so to speak,) constructed of optically coated shaped glass, and mirrored bronze and steel. The glass

units, formed by slumping in a kiln, are of varying shapes and complexity of concave and convex. The glass has a deposited optical interference coating, so that the reflected colors are pure colors. Therefore, Saad Cook can achieve a glorious, multicolored palette as separated wavelengths of light, far more complex than the simple prism, which refracts light into the precise, full spectrum rainbow effect we all know.

Drawing on her experience as Artist-in-Resident in the Department of Physics, Catholic University (1985-1986,) Saad-Cook began to experiment with more complex ways to achieve the colors she wanted - and learned about what she calls "recipes" for stacking coatings to different wave lengths of light onto the glass elements. That is, using a combination of two different materials, for example, silicone dioxide and titanium dioxide, layered to different indices of refraction as they are deposited on the glass in a vacuum chamber. Subsequently, she learned how to instruct optical coating companies to coat her pieces of glass to various wave lengths of light, in order to achieve a full range of colors to create her sun drawings. The glass is used in combination with the mirrored metals, which make the transmitted complimentary color of the optical coating visible. In other instances, the metal units are used for their own reflected images.

Talking about these colors without experiencing them, is like talking about music and not hearing the sound. And, certainly, there is a parallel interference pattern determined by sound waves. But, try to imagine the high angled summer sun streaming through a precisely placed aperture, striking a small glass array unit which glows as an orange reflection, but transmits a blue light moving, perhaps, across the floor to the opposite wall, as the world rotates around the sun in its diurnal cycle. The color is determined by the light. So the incidence of pure color could change/dance from green at 90 degrees to blue at perhaps 180 degrees. With the great variety of optical coatings and shaped arrays, we will be surrounded by an extraordinary display of dramatic colors and reflected forms, continually changing in harmony with the sun, describing our own location on this point on earth. As Saad-Cook describes being in this chamber, "It will be like watching a starry night, while constellations dance (to changing azimuths.)"

VLEM

Alchemy

by Norman Tuck

My newest work, *Alchemy*, is the subject of this article. *Alchemy* generates the energy which it consumes and consumes the energy which it produces.

You may be familiar with my work from my exhibition last year at the Exploratorium. The show was called "Art Machines" and consisted of 24 pieces representing my work since 1974. The pieces are too varied to describe here, however, each piece attempts to de-mystify a common mechanical device or physical phenomenon in order to emphasize its essential beauty.

Many of my works are based on clock escapements and I have built a few large pendulum clocks which actually tell the time of day. One of these clocks is displayed permanently at the Exploratorium. Also at the Exploratorium is a piece called *Lariat Chain* which uses a motorized bicycle wheel to continuously propel a hanging loop of utility chain. In another Exploratorium piece, called *Ouraboros*, a motor repeatedly operates a reversing switch which, of course, reverses the motor's direction, again.

One thing that I have never been able to demystify is electricity. *Alchemy* is about the mystery of electricity.

The platform of *Alchemy* is a copper plate pounded into the shape of a 24 inch diameter pizza pan. This pan holds about two quarts of water taken from the Pacific Ocean. Immersed in this little pond of water is an 18 inch disk cut out of the metal, zinc. Small stones support the disk and insulate the disk from the pan.

Alchemy is, of course, a battery, or more correctly, a primary cell with an anode of copper and a cathode of zinc and an electrolyte of salt water. It has continuously generated about $\frac{3}{4}$ volt of electricity for several weeks.

A small blue horseshoe magnet, with its legs pointed up, sits in the center of if this little pond.

A four foot long piece of copper tubing sprouts upward from the rim at the edge of the copper pan. From the top of this tubing, hanging by a thin copper wire, is a small electronic circuit mounted on a little plastic bobbin. The bobbin and the electronic components were taken

from the pendulum swinging apparatus of a plastic wall clock.

The bobbin unit, hanging like a four foot plumb bob, swings mysteriously, back and forth, passing closely above little blue magnet.

This bobbin is wound with a coil of many yards of copper wire, thinner than a human hair. The bobbin swings less than $\frac{1}{4}$ inch above the blue magnet. A six inch piece of the very thin wire exits the coil and attaches to a wire stalk soldered to the zinc disk. This wire completes the circuit which runs from the copper pan, through the copper tubing, down the support wire and through the electronic circuitry and into the coil. The coil of long thin wire channels and harnesses the electric current generated within *Alchemy*.

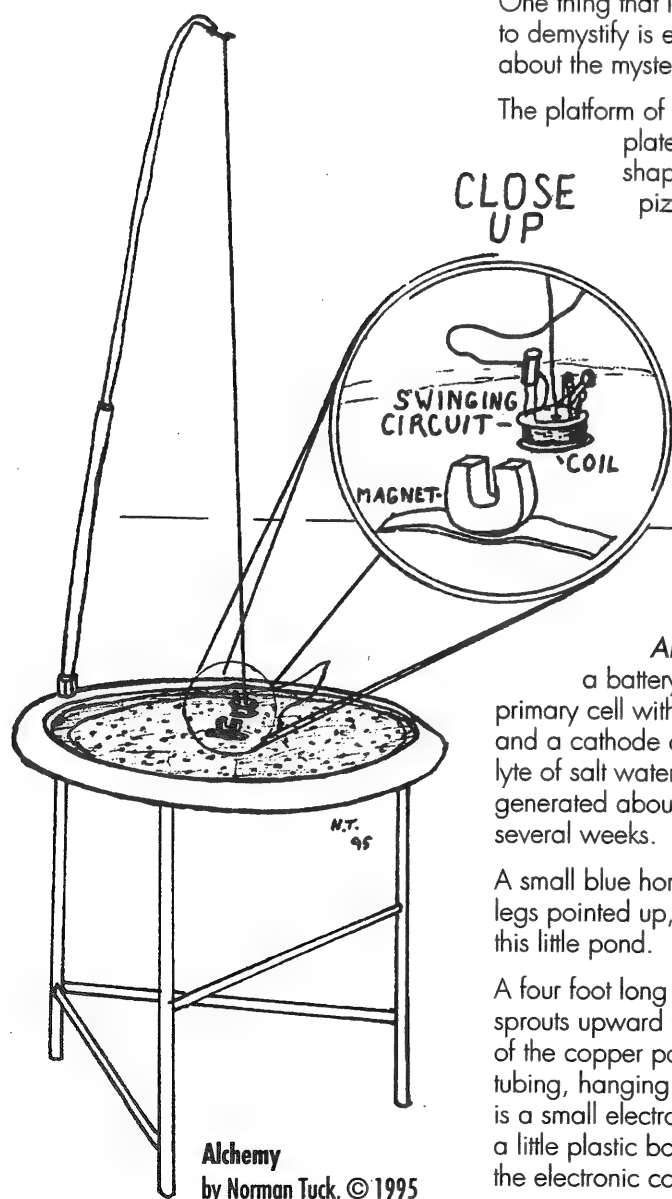
Actually, two independent coils of thin wire are wound together around the single bobbin. One coil acts as the sensor for the circuit. As it passes through the magnetic field of the horseshoe magnet, the coil generates enough current to "switch on" a small NPN transistor. The transistor then passes the current generated within the sculpture through the second coil. The current flowing through this coil creates a magnetic field which repels away from the magnetic field of the blue permanent magnet. This momentary repulsion gives the coil the impulse to continue swinging above the magnet.

This whole piece stands on legs made of $\frac{1}{2}$ inch rigid copper tubing. The galvanic action which produces the electric current causes the zinc disk to turn a deep black and gives the copper a beautiful green patina where it comes into contact with the ocean water.

I am pleased with this piece. The look of the corroded elements, the presence of water drawn directly from the sea, and, of course, the magical movement of the pendulum without any external energy source combine to speak of alchemy. The art that led to science.

© 1995

1100



Alchemy
by Norman Tuck, © 1995



Excerpts from – *Gray Areas: A Treatment of Cognition*

a book by Gail Wight

ARCHITECTURE

Synaptic Transmission

Thoughts are extremely vulnerable during transmission. They may not receive enough support, from sending cells or neighboring networks to survive. A thought may be dismantled by other thoughts in its infancy, or continue to return to its source, rather than making new connections and integrating into the mind. A thought may get lost and drift away, be consumed by other thoughts, or remain unrecognized for what it is by receiving cells.

Conversely, a thought may grow exponentially during transmission, strengthening its centrality and interconnectivity, until it becomes the dominant thought of the mind.

Understandable Associations

Understandable associations are neural constructs. These constructs result from the growth of nerve-cell branches, which swell the brain during the first few years of life. They are especially vulnerable to familial surroundings and cultural systems. Due to the widespread similarity of neural constructs within these systems, associations become understandable and even predictable. When a person's constructs exceed what's expected by their culture, they're said to have intolerable associations.

Facsimiles

Occasionally, the mind is searching for a thought from the past and is unable to find it. It is possible to fabricate a facsimile for the missing thought, often with desirable improvements. The extent to which these replacements occur might depend on an individual's commitment to the original thought.

If an individual feels none of this

commitment and has forgotten a great deal, the content of their neural constructs might be fabricated in whole.

Structural Details

When an individual constructs an inordinate number of facsimiles to replace missing or abandoned thoughts, the natural flow of the past may become awkward and disjunctive. To facilitate smooth transitions between these facsimiles, extensive detail may be generated. These details become the lattice which supports an otherwise inconsistent and volatile memory. Like a phantom rococo cathedral, the ornamentation and the structural architecture are often mistaken for each other.

Tactile Cortex

The ridges that create the whorls of fingerprints are formed by protruding nerve fibers. The valleys in between indicate an absence of nerves, where the blanket of skin rests. A set of fingerprints, then, is a map of an individual's tactile realm.

Each of these raised nerve tips is connected to the brain by a series of long and fibrous nerve cells, each with a corresponding end-point along a strip of tissue known as the sensory cortex. The nerves of the fingertips have a physical correlation, then, in the mind. Therefore, a person's prints reveal their unique network of touch, the singular pattern of their mind's tactile perceptions.

Edge Detection Deficit

Columns of cells in the cerebral cortex are dedicated to the detection of edges. During malfunction, boundaries that are usually clearly defined appear ambiguous. Normal recognition of the beginnings and endings that determine an object's envelope, such as the ending of one's foot and the beginning of the floor,

recede from understanding. Objects tend to flow into one another along their tangential surfaces. This deficit begins with vision, but may extend into other perceptual and cognitive processes.

Enhanced Edge Detection

In a related condition, enhanced edge detection, the subject perceives an inordinate number of edges. For example, the striped shadow thrown by a venetian blind would appear to physically fracture the environment into many long thin objects, each with a definite boundary. If this shadow fell on a door, the door would seem impossible to open, due to its multi-pieced complexity. In extreme cases, a printed page becomes a collection of separate objects, lacking the fluidity necessary for language.

Conversation of Silence

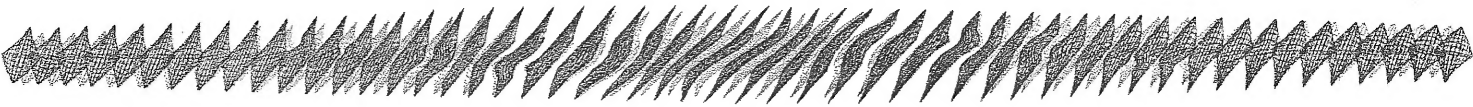
The first conversation among a large group of people was about silence. There was always a great deal of disorganized noise, laughter, and shouting. In order to have a different sound experience, a conversation ensued to arrange everyone's cooperation. After hours of debate and conflicting suggestions, there was an extensive silence.

COMPLEXITY

Perpetual Change

Each time we access an old idea, even though it might be a few minutes old, a





new connection is created. This new connection links the present moment to the old idea from the past. Since we are often contacting thoughts from our past and connections often create minute changes in the elements they unite, this process keeps the contents of the mind in a constant state of flux.

The act of thinking
changes our
thoughts.



Print of Cerebral Cortex taken from Gray Areas

Tea

Marc was offended by clocks, professing that their mechanical rigidity caused him tension and anxiety. To protect himself from them, he created his own system by which to measure time. He chose a simple and repetative event that occurred in the ordinary course of his day - the drinking of a cup of tea - that would serve as the essential unit of measurement.

The measurement would be called the "event" and would begin with the first sip, ending with the last, when all the tea was gone.

But perhaps the duration might be considered as the amount of time that the tea remained in his body. To comprehend this time, he would need to be aware of what the tea was doing once it was inside him.

To measure this time, he began to drink a tea that contained a small taste of nutmeg - conveniently a mild hallucinogen. When the tea reached his intestines, the nutmeg's active ingredient, myristicin, would pass directly into his blood stream. Once it had circulated to his blood/brain barrier, the myristicin would immediately enter the chemical environment of his brain.

In the brain, the myristicin would cause mild hallucinations as a way to measure the duration of the tea.

Of course, the distortions altered his perceptions so that the boundaries of the event became slightly less tangible, but Marc felt that this was an agreeable digression.

After using this chronometer for some time, Marc became aware that the event was beginning to measure itself in another way - as a memory. It might be the sight of the teacup used, or another cup of tea at another time, or the smell of nutmeg that would evoke a memory

of the timed tea drinking. These memories, he realized, became extensions of the original event and so significantly altered its duration.

In fact, if the memory happened to be the very last thought of his life, then the unit of time would be at its conscious maximum. However, if he never thought of tea again, the unit would be very short. Since he could never be certain when, or if, the memory might occur, his measurement of time would remain ambiguous until the last moment of his life.

This fluctuating ambiguity still seemed restrictive to Marc, but he continued to drink clock-tea until an even less certain measurement of the event occurred to him. He considered what his body might be doing while he drank each cup of tea.

His body would always be in the constant process of replacing all of its cells. As the cells were replaced, the DNA would be replicated, and gene mutations would occur for each 100,000 replications. Considering the number of cells in his body, the chance that a mutation would happen while he was drinking tea was very high. While most mutations are shortlived, occasionally they have long-lasting and significant effects on a specie's evolution.

If a long-lasting and significant mutation occurred while drinking tea, the duration of the event would then become as long as the mutation's effect on the species, perhaps as long as the duration of the species itself.

At the same time, Marc would never be certain that a mutation had taken place, and in this way the event would reach a potentially enormous duration, ending any meaningful consciousness of the passing of time.

This made time a tolerable event. **THE**

Please send a **membership application** and sample newsletter to (me) (my friends) at:

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Regular membership includes 12 issues of the *Ylem Newsletter* & listing in the *Artists Using Science and Technology Directory* which you will receive in the Autumn.

New Electronic Membership only \$20

The newsletter and directory will be sent to you online through Internet. Send membership application, together with \$20 and your e-mail address to the Orinda office.

Mailing labels of Ylem members

(about 240 labels) are available to Ylem members for \$20. Call Bev Reiser 510 482-2483 or send \$20 to address below. Please allow 5 weeks for delivery.

Contributions Welcome

The Ylem Newsletter welcomes Ylem members' art and articles, notices of events, exhibitions, etc. Art submitted must reproduce well with b&w copy machine. If you have done art on a Macintosh, you may send us a disk. Please include title, date created, medium and phone number.

Ylem's addresses:

Send articles, art, notices of events, exhibitions, etc. to:

Trudy Reagan
967 Moreno Ave.
Palo Alto, CA 94303
e-mail: TrudyMyrrh@aol.com

Membership and other business (main office):

Ylem
PO Box 749
Orinda, CA 94563
e-mail: beverly@idiom.com

News for Ylem's Art on the Edge website (current members only) e-mail: beverly@idiom.com

Send floppies to
Beverly Reiser
6979 Exeter Dr.
Oakland, CA 94611

Digital info only please!

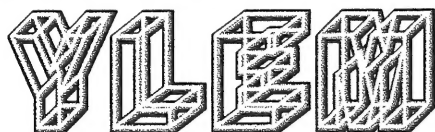
Ylem's Art on the Edge website internet address is:

<http://www.exploratorium.edu/Ylem/ylemhome.html>

Note: The first "Y" in the above address is capital! Our alternate URL will be:

<http://www.ylem.org/ylem/>

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